that is arabinogalactan, or a biological or functional equivalent thereof, and a cryoprotective agent that penetrates the cell membrane, wherein arabinogalactan, or a biological or functional equivalent thereof, is present in an amount of 1% w/v to 40% w/v, wherein the [hematopoietic] cells are freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, and wherein the medium does not comprise dimethylsulfoxide or serum.

26. (Amended) A method for preserving [hematopoietic] cells comprising:

(a) contacting [the] cells with a cryopreservation medium comprising a balanced electrolyte solution and at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v, to yield a cell suspension, wherein the cells are freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, and wherein the medium does not comprise dimethylsulfoxide or serum; and

(b) freezing the cell suspension to yield a frozen cell suspension.

31. (Amended) A frozen composition comprising i) a balanced electrolyte solution, ii) at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v, and iii) [hematopoietic cells selected from the group consisting of] freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, wherein the composition does not comprise dimethylsulfoxide or serum.

37. (Amended) A cryopreservation medium comprising a balanced electrolyte solution, at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v and [hematopoietic cells, wherein the hematopoietic cells are] freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, wherein the medium does not comprise dimethylsulfoxide or serum, and wherein the balanced electrolyte

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Clean Version of Pending Claims

COMPOSITIONS AND METHODS FOR CRYOPRESERVATION OF PERIPHERAL BLOOD LYMPHOCYTES
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Serial No.: 09/458,862

1. (Three times amended) A cryopreservation medium comprising a balanced electrolyte solution incorporating at ~~least one~~ cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, which agent is present ~~in an amount~~ of 1% w/v to 40% w/v and freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which ~~are~~ modified *ex vivo*, or a combination thereof, wherein the medium does not comprise dimethylsulfoxide or serum.

2. The cryopreservation medium of claim 1 wherein the cells are peripheral blood lymphocytes.

3. The cryopreservation medium of claim 1 that comprises arabinogalactan.

4. The cryopreservation medium of claim 1 further comprising a cryoprotective agent that penetrates the cell membrane.

5. The cryopreservation medium of claim 4 wherein the cryoprotective agent that penetrates the cell membrane is glycerol or propylene glycol.

6. The cryopreservation medium of claim 1 further comprising a cryoprotective agent other than arabinogalactan or a biological or functional equivalent thereof which does not penetrate the cell membrane.

7. The cryopreservation medium of claim 1 which does not comprise protein.

8. The cryopreservation medium of claim 1 which is infusible.

11. The cryopreservation medium of claim 1 wherein the cells are human cells.

12. The cryopreservation medium of claim 1 wherein the cells are non-human vertebrate cells.

14. (Three times amended) A composition suitable for administration to a human, comprising a suspension of cells in a cryopreservation medium comprising a balanced electrolyte solution incorporating at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, and a cryoprotective agent that penetrates the cell membrane, wherein arabinogalactan, or a biological or functional equivalent thereof, is present in an amount of 1% w/v to 40% w/v, wherein the cells are freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof,

and wherein the medium does not comprise dimethylsulfoxide or serum.

16. (Amended) The composition of claim 14 wherein the cells are peripheral blood lymphocytes.

17. (Amended) The composition of claim 14 wherein at least one of the cryoprotective agents is arabinogalactan.

19. (Amended) The composition of claim 14 wherein the cryoprotective agent that penetrates the cell membrane is glycerol or propylene glycol.

20. (Amended) The composition of claim 14 further comprising a cryoprotective agent other than arabinogalactan or a biological or functional equivalent thereof which does not penetrate the cell membrane.

21. (Amended) The composition of claim 14 which does not comprise protein.

22. (Amended) The composition of claim 14 which is infusible.

24. (Amended) The composition of claim 14 wherein the cells are human cells.

26. (Amended) A method for preserving cells comprising:

(a) contacting cells with a cryopreservation medium comprising a balanced electrolyte solution and at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v, to yield a cell suspension, wherein the cells are freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, and wherein the medium does not comprise dimethylsulfoxide or serum; and

(b) freezing the cell suspension to yield a frozen cell suspension.

27. The method of claim 26 further comprising thawing the frozen cell suspension under conditions that maintain cell viability.

28. The method of claim 26 wherein the cells are human cells.

30. The method of claim 26 wherein the cells are peripheral blood lymphocytes

31. (Amended) A frozen composition comprising i) a balanced electrolyte solution, ii) at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v, and iii) freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, wherein the composition does not comprise dimethylsulfoxide or serum.

32. A frozen hematopoietic cell-containing composition made according to the method of claim 26.

33. The cryopreservation medium of claim 5 wherein the cryoprotective agent that penetrates the cell membrane is glycerol.

34. The cryopreservation medium of claim 33 wherein the concentration of glycerol is about 1% to about 3%.

35. The cryopreservation medium of claim 1 wherein the lymphocytes which are modified *ex vivo* are activated lymphocytes or genetically modified lymphocytes.

36. (Amended) The composition of claim 14 or 31 wherein the lymphocytes which are modified *ex vivo* are activated lymphocytes or genetically modified lymphocytes.

37. (Amended) A cryopreservation medium comprising a balanced electrolyte solution, at least one cryoprotective agent that is arabinogalactan, or a biological or functional equivalent thereof, in an amount of 1% w/v to 40% w/v and freshly isolated lymphocytes, hematopoietic stem cells, lymphocytes which are modified *ex vivo*, or a combination thereof, wherein the medium does not comprise dimethylsulfoxide or serum, and wherein the balanced electrolyte solution is selected from the group consisting of lactated Ringer's solution, PlasmaLyte-A™, Normosol-R™, Veen-D™, Polysal®, and Hank's balanced salt solution.

38. The cryopreservation medium of claim 37 wherein the lymphocytes are peripheral blood lymphocytes.

39. The cryopreservation medium of claim 37 wherein the agent is arabinogalactan.

40. The cryopreservation medium of claim 37 further comprising a cryoprotective agent that penetrates the cell membrane.

41. The cryopreservation medium of claim 40 wherein the cryoprotective agent that penetrates the cell membrane is glycerol or propylene glycol.

42. The cryopreservation medium of claim 37 further comprising a cryoprotective agent other than arabinogalactan or a biological or functional equivalent thereof which does not penetrate the cell membrane.

43. The cryopreservation medium of claim 37 which does not comprise protein.

44. The cryopreservation medium of claim 37 which is infusible.

47. The cryopreservation medium of claim 37 wherein the cells are human cells.

48. The cryopreservation medium of claim 37 wherein the cells are non-human vertebrate cells.

49. (New) The method of claim 26 wherein the medium comprises arabinogalactan.

50. (New) The method of claim 26 further comprising a cryoprotective agent that penetrates the cell membrane.

51. (New) The method of claim 50 wherein the cryoprotective agent that penetrates the cell membrane is glycerol or propylene glycol.

52. (New) The method of claim 26 wherein the lymphocytes which are modified *ex vivo* are activated lymphocytes or genetically modified lymphocytes.